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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/600,590	07/19/2000	BERNARD ASPAR	025219-268	5219

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EXAMINER

KRUER, KEVIN R

ART UNIT

PAPER NUMBER

1773

DATE MAILED: 10/24/2002

1773

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/600,590	ASPAR ET AL.
	Examiner Kevin R Kruer	Art Unit 1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on \_\_\_\_.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-39 is/are pending in the application.  
 4a) Of the above claim(s) 2-12 and 25-28 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 1,13-23 and 29-36 is/are rejected.  
 7) Claim(s) \_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 11) The proposed drawing correction filed on \_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.  
 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.  
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
 a) The translation of the foreign language provisional application has been received.  
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> .	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

Claims 2-12 and 25-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected method of making a compliant substrate, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 8.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1, 13-24 and 29-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In line 2 of claim 1, the term "thin layer" is indefinite because the metes and bounds of the term "thin" are not clear.

Furthermore, the phrase "in integral manner" is indefinite in line 4 of claim 1. It is not clear how the phrase further limits the manner in which the film receives a stress-giving structure.

The term "stress-giving structure" is indefinite because the metes and bounds of said phrase are indefinite.

Claim 1 (lines 10-15) also contains improper Markush language. For guidance on what constitutes proper Markush language, see MPEP 2173.05(h).

Claim 13 recites the limitation "this interface" in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 contains the word “hydrophilia.” To the best of the examiner’s knowledge, “hydrophilia” is not an actual word and has no art accepted meaning.

Claim 17 contains the phrase “made up of non-homogeneities able to relax stresses.” The metes and bounds of the phrase are indefinite. Specifically, is “made up of” open or closed language? Does “made up of” refer to the physical composition of the layer or its physical properties? How does one of ordinary skill in the art determine that a non-homogeneity is able to “relax stresses?” How does one determine “non-homogeneity?”

In claims 18 and 30, the scope of the term “bonding interface” is indefinite. Every layer attached to another layer is going to have an “interface” where those two layers meet. Thus, if the term “bonding interface” is meant to encompass any interface where two layers meet, then claim 18 does not further limit claim 1. If “bonding interface” is interpreted to read on an additional layer, then it is unclear how the “bonding interface” differs from the “intermediate layer” of claim 16. For purposes of examination, the phrase will be interpreted to read on any interface between two layers. Thus, claims 18 and 30 do not further limit the parent claims.

Claim 20 is indefinite because it is unclear whether the “insertion of a foreign element” is positively recited, or if the claim is just further limiting the thin layer to a layer that becomes “pre-stressed” if a foreign element were inserted therein. Furthermore, it is not clear how one of ordinary skill in the art is suppose to determine if such an element “promotes the compliance of said substrate.”

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 13-23, and 29-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Bisaro et al (US 5,414,894). Bisaro teaches a laminate as picture in Figure 4d. The laminate comprises a substrate (10), a monocrystalline zone (13) made by implanting ions through the substrate (col 4, lines 64+), a preliminary layer (11) on said monocrystalline zone (col 4, line 52+), an epitaxial growth layer (16) on said preliminary layer (col 5, lines 12+) which can be ion implanted (15), and a final layer of epitaxial growth layer (17). Ion that can be implanted include Mn, Al, Si, Cr, Fe, Ni Co, CU, Ge, Sn, Zn Cd, Ti C, Cl, B, Ar, P, Le, Au, Ni, oxygen, hydrogen, fluorine, Si, Br, and S (col 3, lines 37+). The layers may comprise semiconductor materials such as silicon, germanium, or the like (col 6, lines 34+).

The ion implantation of the substrate reads on the claimed “joining zone.” The epitaxial growth layer reads on the claimed “thin layer.” The claimed “intermediate layer” is met by the preliminary layer (11). Bisaro teaches said layer may be made from GaAs (see Fig 4d), arsenic, gallium, Si, or a number of other materials (col 4, lines 57+). Since the layer is amorphous, the examiner takes the position it is inherently “non-homogeneous.”

With respect to claim 13, the bonding energy between the epitaxial growth layer (16) (which reads on the claimed “the thin layer”) and the epitaxial growth layer (17) is

altered by ion implantation. Ion implantation is known to affect the surface's roughness. Claim 22 is met, when the ion used to implant the thin layer is a dopant (see col 3, lines 37+).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 24 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bisaro et al. (US 5,141,894), as applied to claims 1, 13-23, and 29-33 above, and further in view of Yamashita (US 3,742,318). Bisaro is relied upon as above. Specifically, Bisaro teaches that the epitaxial growth layer (17) may comprise semiconductor layers such as silicon. Bisaro does not teach that silicon alloys may be utilized. However, Si, Ge, and SiC are known in the art as semiconductors that can be used interchangeably (see '318, col 3, lines 16+). In order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, *In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958). Thus, it would have been obvious to utilize SiC as the semiconductor of the epitaxial growth layers taught in Bisaro because Yamashita teaches that it is used interchangeably in the semiconductor art with Si and Ge.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R Kruer whose telephone number is 703-305-0025. The examiner can normally be reached on Monday-Friday from 7:00a.m. to 4:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is 703-305-5408.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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